

Application No.: 10/535,266
Amendment Dated: January 9, 2009
Reply to Office Action of: October 9, 2008

MAT-8684US

Remarks/Arguments:

Claims 1 and 13-14 are pending in the above-identified application. Claims 2-12 and 15-17 have been cancelled. New claim 18 has been added.

Claims 1-2 and 17 were rejected under 35 U.S.C. § 103 (a) as being obvious over JP-2002268577 to Kaneko et al. in view of U.S. patent no. 6,496,373 to Chung and U.S. patent publication no. 2002/0193035 to Wei et al. The rejection of claims 2 and 17 are moot due to the cancellation of these claims. It is respectfully submitted that claim 1 is now patentable over the art of record for the reasons set forth below.

Applicants' invention, as recited by claim 1, includes features which are neither disclosed nor suggested by the art of record, namely:

... forming the thermal conductive material from a pull-to-remove type adhesive ...

... curing the adhesive by simultaneous application of pressure and heat,

wherein a groove in which a portion of the adhesive flows and is formed at a periphery of the holding plate, the groove accepting the portion of the flowed adhesive and preventing it from leaking to the outside of the holding plate.

Basis for these amendments may be found, for example, in the originally filed application at page 10, lines 10-14, page 10, lines 24-25, Figs. 6B and 7D and claim 2. No new matter has been added.

In Applicant's exemplary embodiment, the pull-to-remove type adhesive 17 made of thermal conductive material is placed between the panel 10 and the chassis member (holding plate) 14. Heat and pressure are then simultaneously applied to the adhesive 17 for bonding the panel 10 and the holding plate 14 together in a short time. (Page 10, lines 10-14). That is, claim 1 recites, "... curing the adhesive by simultaneous application of pressure and heat ..." A groove 14B formed at a periphery of the holding plate 14 prevents the adhesive 17 from hanging down from the holding plate 14. (Page 10, lines 24-25). That is, claim 1 recites, "... a groove in

which a portion of the adhesive flows and is formed at a periphery of the holding plate, the groove accepting the portion of the flowed adhesive and preventing it from leaking to the outside of the holding plate.”

Applicant's claimed features are advantageous over the prior art because when the panel 10 needs to be separated from the holding plate 14, the panel 10 and the holding plate 14 may be separated with ease by just pulling out the end of the pull-to-remove type adhesive 17 filled in the groove 14B. The manufacturing method of Applicant's exemplary embodiment thus takes the waste disposal and recycling of the product into consideration, and advantageously allows disposing or recycling the product with ease.

The Office Action states that Kaneko et al. discloses a pull-to-remove type adhesive applied between panel 1B and holding plate 3. (Page 2, item 3). Because the double-coated adhesive tape in Kaneko et al., however, is used as an adhesive, it is not cured by applying heat and pressure simultaneously. Therefore, the chassis in Kaneko et al. does not need a groove at its periphery in order to receive parts of the adhesive to flow therein.

The Office Action admits that Kaneko does not disclose or suggest "... curing the adhesive by simultaneous application of pressure and heat," as recited in claim 1. (Page 4, lines 6-7). The Office Action states, however, that Chung teaches bonding under heat and pressure simultaneously to reduce the number of voids and cure the adhesive. (Page 3, lines 7-9). Chung, however, cannot be combined with Kaneko et al. and teaches away from Kaneko et al. for the following reasons.

Chung discloses a technique to cure a pressure sensitive and thermoplastic adhesive 100 made of thermal conductive material by applying heat and pressure simultaneously thereto. The adhesive 100 in Chung, however, is used to create substantial bonding strength to maintain a bond between heat dissipating element 20 and components 10. (Col. 3, line 1-8 and col. 5, lines 13-20). Thus, Chung cannot be combined with Kaneko et al. because the heating and pressure in Chung is to permanently bond elements together and not, for use with a pull-to-remove type adhesive. In fact, by applying heat and pressure to permanently bond, Chung also teaches away from using a pull-to-remove type adhesive disclosed in Kaneko et al.

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The Office Action also admits that Kaneko et al. and Chung do not disclose a groove into which the adhesive flows. (Page 3, lines 13-14). The Office Action states that Wei et al. discloses a groove into which the adhesive flows. (Page 3, lines 14-18). Wei et al., however, also cannot be combined with Kaneko et al. and teaches away from Kaneko et al. for the following reasons.

Wei et al. discloses a packaging method of an organic EL display. The method employs ultraviolet curing resin or thermosetting resin as a sealing member 208. When a laminated board 204 and a panel 200 are sealed together, the sealing member 208 is entirely distributed for accurately fixing the board to the panel. A groove 206 is formed in order to prevent the resin 208 from flowing to the edge of the board or the panel. The sealing member 208 in Wei et al., however, is rigidly filled in the groove 206 with the curing resin for enhancing adhesion during the lifetime of the EL display device. (Para. [0030]). Thus, Wei et al. also cannot be combined with Kaneko et al. because the adhesive and the groove are used to permanently seal the board 204 and panel 200 together. In fact, by permanently sealing the board 204 and panel 200 together, Wei et al. also teaches away from using a pull-to-remove type adhesive disclosed in Kaneko et al.

Accordingly, neither Kaneko et al, Wei et al., Chung, nor their combination disclose or suggest the features of Applicant's claim 1.

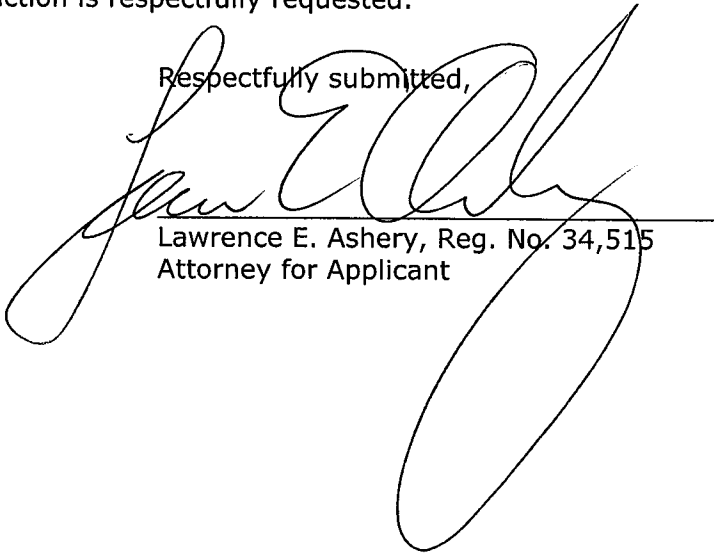
New claim 18 has been added. Basis for new claim 18 may be found, for example, in the originally filed application at page 7, line 24 to page 8, line 9. No new matter has been added.

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In view of the foregoing amendments and remarks, this Application is in condition for allowance which action is respectfully requested.

Respectfully submitted,



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